

#7
2/14/01
RECEIVED
FEB 14 2001
1633

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/669,187A DATE: 02/05/2001
TIME: 14:58:29

Input Set: A:\C1039\7035seq.txt
Output Set: N:\CRF3\02052001\1669187A.raw

4 <110> APPLICANT: Krieg, Arthur M.
5 Schetter, Christian
6 Vollmer, Jorg
8 <120> TITLE OF INVENTION: Immunostimulatory Nucleic Acids
11 <130> FILE REFERENCE: C1039/7035 (HCL/MAT)
13 <140> CURRENT APPLICATION NUMBER: US 09/669,187A
14 <141> CURRENT FILING DATE: 2000-09-25
16 <150> PRIOR APPLICATION NUMBER: US 60/156,113
17 <151> PRIOR FILING DATE: 1999-09-25
19 <150> PRIOR APPLICATION NUMBER: US 60/156,135
20 <151> PRIOR FILING DATE: 1999-09-27
22 <150> PRIOR APPLICATION NUMBER: US 60/227,436
22 <151> PRIOR FILING DATE: 2000-08-23
23 <160> NUMBER OF SEQ ID NOS: 1145
25 <170> SOFTWARE: FastSEQ for Windows Version 3.0
27 <170> OTHER INFORMATION: Synthetic Sequence
29 <210> SEQ ID NO: 1
30 <211> LENGTH: 18
31 <212> TYPE: DNA
32 <213> ORGANISM: Artificial Sequence
34 <220> FEATURE:
35 <223> OTHER INFORMATION: Synthetic Sequence
37 <400> SEQUENCE: 1
38 ttcgcggccat
40 <210> SEQ ID NO: 2
41 <211> LENGTH: 20
42 <212> TYPE: DNA
43 <213> ORGANISM: Artificial Sequence
45 <220> FEATURE:
46 <223> OTHER INFORMATION: Synthetic Sequence
48 <400> SEQUENCE: 2
49 ataaatccgac ttggaaaccagg
51 <210> SEQ ID NO: 3
52 <211> LENGTH: 20
53 <212> TYPE: DNA
54 <213> ORGANISM: Artificial Sequence
56 <220> FEATURE:
57 <223> OTHER INFORMATION: Synthetic Sequence
59 <400> SEQUENCE: 3
60 ataaatccgac ttccaaagg
62 <210> SEQ ID NO: 4
63 <211> LENGTH: 18
64 <212> TYPE: DNA
65 <213> ORGANISM: Artificial Sequence
67 <220> FEATURE:
68 <223> OTHER INFORMATION: Synthetic Sequence
70 <400> SEQUENCE: 4
71 tacccggtgc gaccctct

ENTERED

18

20

20

18

RAW SEQUENCE LISTING
US/09/669-187A DATE: 02/05/2001
TIME: 14:58:29

Input Set : A:\C1039-7035seq.txt
Output Set: N:\CRF3\02052001\1669187A.raw

```

73 <210> SEQ ID NO: 5
74 <211> LENGTH: 9
75 <212> TYPE: DNA
76 <213> ORGANISM: Artificial Sequence
78 <220> FEATURE:
79 <223> OTHER INFORMATION: Synthetic Sequence
81 <400> SEQUENCE: 5
82 gggggggggg
84 <210> SEQ ID NO: 6
85 <211> LENGTH: 9
86 <212> TYPE: DNA
87 <213> ORGANISM: Artificial Sequence
89 <220> FEATURE:
90 <223> OTHER INFORMATION: Synthetic Sequence
92 <400> SEQUENCE: 6
93 gggggggggg
95 <210> SEQ ID NO: 7
96 <211> LENGTH: 9
97 <212> TYPE: DNA
98 <213> ORGANISM: Artificial Sequence
100 <220> FEATURE:
101 <223> OTHER INFORMATION: Synthetic Sequence
103 <400> SEQUENCE: 7
104 gggttaggtg
106 <210> SEQ ID NO: 8
107 <211> LENGTH: 20
108 <212> TYPE: DNA
109 <213> ORGANISM: Artificial Sequence
111 <220> FEATURE:
112 <223> NAME/KEY: modified_base
113 <223> LOCATION: (8)...(8)
114 <223> OTHER INFORMATION: m5c
116 <223> OTHER INFORMATION: Synthetic Sequence
118 <400> SEQUENCE: 8
119 tccatgttgttgcgttgt
121 <210> SEQ ID NO: 9
122 <211> LENGTH: 15
123 <212> TYPE: DNA
124 <213> ORGANISM: Artificial Sequence
126 <220> FEATURE:
127 <223> NAME/KEY: modified_base
128 <223> LOCATION: (11)...(11)
129 <223> OTHER INFORMATION: m5c
131 <223> OTHER INFORMATION: Synthetic Sequence
133 <400> SEQUENCE: 9
134 <210> SEQ ID NO: 10
136 <211> LENGTH: 20
137 <212> TYPE: DNA

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/669,187A

DATE: 02/05/2001
TIME: 14:58:29

Input Set : A:\C1039-7035seq.txt
Output Set: N:\CRF3\02052001\I669187A.raw

139 <212> ORGANISM: Artificial Sequence
141 <220> FEATURE:
142 <211> NAME/KEY: modified_base
143 <222> LOCATION: (8)...(8)
144 <223> OTHER INFORMATION: m5c
145 <223> OTHER INFORMATION: Synthetic Sequence
146 <400> SEQUENCE: 10
147 *tccatcgact tctcgatgt*
151 <210> SEQ ID NO: 11
152 <211> LENGTH: 20
153 <212> TYPE: DNA
154 <213> ORGANISM: Artificial Sequence
156 <220> FEATURE:
157 <211> NAME/KEY: modified_base
158 <222> LOCATION: (13)...(13)
159 <223> OTHER INFORMATION: m5c
161 <223> OTHER INFORMATION: Synthetic Sequence
163 <400> SEQUENCE: 11
164 *tccatcgact tctcgatgt*

20

166 <210> SEQ ID NO: 12
167 <211> LENGTH: 15
168 <212> TYPE: DNA
169 <213> ORGANISM: Artificial Sequence
171 <220> FEATURE:
172 <211> NAME/KEY: modified_base
173 <222> LOCATION: (7)...(7)
174 <223> OTHER INFORMATION: m5c
176 <223> OTHER INFORMATION: Synthetic Sequence
178 <400> SEQUENCE: 12
179 *gtcatggatc atgtt*

20

181 <210> SEQ ID NO: 13
182 <211> LENGTH: 19
183 <212> TYPE: DNA
184 <213> ORGANISM: Artificial Sequence
186 <220> FEATURE:
187 <223> OTHER INFORMATION: Synthetic Sequence
189 <400> SEQUENCE: 13
190 *agtcctcatgg tgcgtcactg*
192 <210> SEQ ID NO: 14
193 <211> LENGTH: 20
194 <212> TYPE: DNA
195 <213> ORGANISM: Artificial Sequence
197 <220> FEATURE:
198 <223> OTHER INFORMATION: Synthetic Sequence
200 <400> SEQUENCE: 14
201 *ccaaatgcac cctcaaggcga*
203 <210> SEQ ID NO: 15
204 <211> LENGTH: 20
205 <212> TYPE: DNA

15

19

20

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/669,187A
 DATE: 02/05/2001
 TIME: 14:58:29
 Input Set : A:\C1039-7035seq.txt
 Output Set: N:\CRF3\02052001\I669187A.raw

```

206 <213> ORGANISM: Artificial Sequence
208 <220> FEATURE:
209 <223> OTHER INFORMATION: Synthetic Sequence
211 <400> SEQUENCE: 15
212 gracatcgtc cgcgaaccgg
214 <210> SEQ ID NO: 16
215 <211> LENGTH: 19
216 <212> TYPE: DNA
217 <213> ORGANISM: Artificial Sequence
219 <220> FEATURE:
220 <223> OTHER INFORMATION: Synthetic Sequence
222 <400> SEQUENCE: 16
223 gtcactcggtg gtacctcqa
225 <210> SEQ ID NO: 17
226 <211> LENGTH: 25
227 <212> TYPE: DNA
228 <213> ORGANISM: Artificial Sequence
230 <220> FEATURE:
231 <223> OTHER INFORMATION: Synthetic Sequence
233 <400> SEQUENCE: 17
234 gtttgatatac ggcgcggactt tggtg
236 <210> SEQ ID NO: 18
237 <211> LENGTH: 25
238 <212> TYPE: DNA
239 <213> ORGANISM: Artificial Sequence
241 <220> FEATURE:
242 <223> OTHER INFORMATION: synthetic Sequence
244 <400> SEQUENCE: 18
245 gattccaaactt ggctcaatat taggc
247 <210> SEQ ID NO: 19
248 <211> LENGTH: 24
249 <212> TYPE: DNA
250 <213> ORGANISM: Artificial Sequence
252 <220> FEATURE:
253 <223> OTHER INFORMATION: Synthetic Sequence
255 <400> SEQUENCE: 19
256 accatggccg actgttttc cctc
258 <210> SEQ ID NO: 20
259 <211> LENGTH: 24
260 <212> TYPE: DNA
261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:
264 <223> OTHER INFORMATION: Synthetic Sequence
266 <400> SEQUENCE: 20
267 accatggccg actgttttc cctc
269 <210> SEQ ID NO: 21
270 <211> LENGTH: 24
271 <212> TYPE: DNA
272 <213> ORGANISM: Artifical Sequence

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/669,187A
 DATE: 02/05/2001
 TIME: 14:58:29
 Input Set: A:\C1039-7035seq.txt
 Output Set: N:\CRF\J02052001\I669187A.raw

```

274 <220> FEATURE:  

275 <223> OTHER INFORMATION: Synthetic Sequence  

277 <400> SEQUENCE: 21  

278 accatggacc accttgtttcc cctc  

280 <210> SEQ ID NO: 22  

281 <211> LENGTH: 24  

282 <212> TYPE: DNA  

283 <213> ORGANISM: Artificial Sequence  

285 <220> FEATURE:  

286 <223> OTHER INFORMATION: Synthetic Sequence  

288 <400> SEQUENCE: 22  

289 accatggacc tactgtttcc cctc  

291 <210> SEQ ID NO: 23  

292 <211> LENGTH: 24  

293 <212> TYPE: DNA  

294 <213> ORGANISM: Artificial Sequence  

296 <220> FEATURE:  

297 <223> OTHER INFORMATION: Synthetic Sequence  

299 <400> SEQUENCE: 23  

300 accatggacc gtctgtttcc cctc  

302 <210> SEQ ID NO: 24  

303 <211> LENGTH: 24  

304 <212> TYPE: DNA  

305 <213> ORGANISM: Artificial Sequence  

307 <220> FEATURE:  

308 <223> OTHER INFORMATION: synthetic Sequence  

310 <400> SEQUENCE: 24  

311 accatggacc ttctgtttcc cctc  

313 <210> SEQ ID NO: 25  

314 <211> LENGTH: 25  

315 <212> TYPE: DNA  

316 <213> ORGANISM: Artificial Sequence  

318 <220> FEATURE:  

319 <223> OTHER INFORMATION: Synthetic Sequence  

321 <400> SEQUENCE: 25  

322 ccacttcaac ctgtcgatcc acaag  

324 <210> SEQ ID NO: 26  

325 <211> LENGTH: 25  

326 <212> TYPE: DNA  

327 <213> ORGANISM: Artificial Sequence  

329 <220> FEATURE:  

330 <223> OTHER INFORMATION: Synthetic Sequence  

332 <400> SEQUENCE: 26  

333 acttccttata gtcctttgg tccag  

335 <210> SEQ ID NO: 27  

336 <211> LENGTH: 20  

337 <212> TYPE: DNA  

338 <213> ORGANISM: Artificial Sequence  

340 <220> FEATURE:  


```

FYI:

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/669,187A

DATE: 02/05/2001
TIME: 14:58:30

Input Set: A:\CRF3\02052001\I669187A.raw
Output Set: N:\CRF3\02052001\I669187A.txt

L:113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
 L:133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
 L:149 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
 L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
 L:179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
 L:187 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:128
 L:190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29
 L:603 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
 L:1051 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89
 L:1061 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:113
 L:1342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:179
 L:2072 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:190
 L:2081 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:222
 L:2561 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:249
 L:2879 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:251
 L:2912 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:284
 L:3279 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:288
 L:3327 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:289
 L:3362 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:304
 L:3543 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313
 L:3654 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:335
 L:3704 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:336
 L:3923 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:337
 L:3938 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:338
 L:3957 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:354
 L:4145 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:358
 L:4205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:414
 L:4845 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:698
 L:7993 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:707
 L:8094 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:709
 L:8122 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:710
 L:8137 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:728
 L:8343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:729
 L:8358 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:730
 L:8373 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:731
 L:8388 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:732
 L:8403 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:760
 L:8723 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:762
 L:8749 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:763
 L:8764 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:764
 L:8787 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:764
 L:9189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:798
 L:9219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:800
 L:9238 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:801
 L:9257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:802
 L:9276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:803
 L:11495 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1001
 L:11917 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1039

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/669,187A

DATE: 02/05/2001
TIME: 14:58:30

Input Set : A:\C1039-7035seq.txt
Output Set: N:\CRF3\02052001\1669187A.raw

L:12112 M:341 W: (46) *n" or "Xaa" used, for SEQ ID#:1056